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ABSTRACT

Norms of free association to common ambiguous English words are reported. Responses were categorized on the basis of sense relevance. On this basis, the sense dominance of the words was quantified, and the degree of ambiguity associated with each word estimated by the information measure U. This publication will be of interest primarily to researchers in verbal learning and psycholinguistics. (Author)

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CHARLES A. PERFETTI, ROBERT LINDSEY, AND BLAINE GARSON

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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ASSOCIATION AND UNCERTAINTY: NORMS OF ASSOCIATION TO AMBIGUOUS WORDS

Charles A. Perfetti, Robert Lindsey, and Blaine Garson

The fact that words have multiple meanings is of interest from a number of points of view. A significant part of a well-known attempt to characterize the formal requirements of lexical representation is devoted to questions of polysemous entries in a dictionary (Katz & Fodor, 1963). On the other hand, multiple meanings can be viewed as theoretically unimportant facts to be dealt with through multiple dictionary entries (Weinreich, 1966). (As a practical matter, lexicographers tend to use single and multiple entries according to etymologies.)

Questions of semantic structure and dictionary making aside, the main purpose for these norms is empirical. Research which relates free associative data to performance has relied on norms of association which take no explicit account of word ambiguity.[1] On the assumption that association data can be analyzed according to meaning, the present work was undertaken to (1) quantify the sense (meaning) dominance of some ambiguous English words, (2) indicate the sense-relevance of free association to these words, and (3) estimate quantitatively the ambiguity associated with each word.

Data Collection

The associations were collected during the 1969-1970 academic year from students at the University of Pittsburgh. A single response was given to each word by 108 subjects. The words were presented on audio tape at an eight-second rate. There were two orders, one being the reverse of the other. Ss were instructed to give the first word that came to mind upon hearing the word, but no mention was made of multiple meanings.

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[1] Independently, Kausler and Kollasch (1970) and Cramer (1970) have reported norms for homographs. These studies have both used visual presentation of words in contrast to the auditory method of the present study. Cramer's study has the additional difference of restricting all sense judgments to only two categories.

The Words

Associations were given to the 109 words arranged alphabetically on page 7. Words were chosen so as to have at least two distinct meanings. We were not concerned with etymological distinctness, but only with contemporary usage. Thus, while most of the words typically would be found with multiple entries in a dictionary (e.g., bridge, count, rock), some would not (e.g., country, change).

The grammatical form class of the words was of course variable, although only content categories were used. Every word on the list belongs to more than one class, but in no case was ambiguity only a difference in form class.

Frequency of occurrence, as measured by the Kucera and Francis (1967) count for printed English, varied from 1 per million (perch, mug) to 897 per million (well). There were 31 words within the range 0-25; 21 within the range 26-50; 20 within the range 51-100; 20 within the range 101-200; 12 within the range 201-500; and 5 words with frequency greater than 500.

Semantic Judgments

All responses to a given word were listed together on a single page and judged for sense category by five judges.[2] The expected senses of a word were indicated at the top of a page by a brief definition. Judges indicated their judgments for each response according to the following rules:

1. Each response was categorized according to the judges' determination of which sense would most likely yield the observed response. In most cases this is quite straightforward. The response river to the word BRIDGE goes unequivocally into the sense (span), not into the sense (cards).
2. If a judge thought a response was appropriate for more than one sense, he could mark it as ambiguous (A). For example, wide in response to YARD was judged A between the two senses (lawn) and (unit of measure). Also, responses which involved stimulus repetition or stimulus pluralization were judged A.
3. A third alternative open to the judge was to decide that a response had no clear part of any sense. Examples

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[2] The five judges were Mr. Keith Bromberg, Miss Pat Franklin, Miss Blaine Garson, Mr. Robert Lindsey, and Mrs. Dianne Quinlan.

of this category (X) were picture to TRAIN, past to ROCK, and imagine to LIGHT.

4. In some cases, a sense of the word not anticipated seemed to be reflected in some responses, and a judge could suggest adding another sense category. In such instances, the final decision of whether to add another sense was made by the senior investigator. [3]

Some responses were obviously based on misperceptions and homophony. These were discarded for the final analysis, which resulted from combining the independent decisions of the five judges. When the judges were divided between two senses, the word was placed in the A category. When the decision was between a sense category and the X category, it was placed in the sense category, unless a majority of judges had put it in X. Occasionally, we overruled the judges by deciding that a judgment was in error due to lack of information on the part of the judge. Thus, a judge not familiar with ice hockey might have incorrectly categorized the response hockey to CHECK.

The Uncertainty Measure

We were interested in a measure which could indicate the degree of ambiguity associated with each word, based on (1) the number of different senses and (2) the relative frequency of each sense, based on the percentage of associations. We finally settled on the information measure U as the most useful and interpretable index.

Consider what might be meant by "maximum ambiguity." A word with an indeterminantly high number of equi-probable senses would seem

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[3]That such decisions were sometimes difficult reflects a well-known problem in semantics and lexicography: The number of senses of a word depends on the degree of sensitivity required. Our general approach was pragmatic. If an additional sense was clearly indicated, and if it could be used without increasing the number of responses in the A category, it was used. Thus, we distinguished BAR as (physical object) from BAR as (exclude), because the judges could categorize the responses without dumping very many into A. On the other hand, while we distinguished four senses of CHECK, we did not distinguish between the sense (draft drawn on a bank) and the sense (bill)--which are distinguished in the sentence, "I paid the check with a check." To do so not only would have drawn a line finer than usual, it would have forced us to classify about 35 percent of the responses as ambiguous--e.g., money, pay.

to fit the bill. Accordingly, a word with ten equi-probable senses is more ambiguous than a word with five equi-probable senses. But the word with five equi-probable senses is more ambiguous than the word with five senses that are not equi-probable. The information measure reflects both of these factors which contribute to our intuitive idea of ambiguity.

To obtain the measure (U) for our words, all X and A responses were discarded.[4] That is, the percentages for sense categories alone were adjusted to add up to 100. The new percentages were then used as probability estimates for the information statistic, $U=\sum_{i=1}^{n} pi \log_2 \frac{1}{pi}$, where, for our purposes, n is the number of senses and p is the probability associated with each sense.

The resulting value is the semantic uncertainty (U) associated with a given word. Since the maximum U depends on the number of senses, a word with two senses has a maximum value of 1.00, less than the maximum value for a word with three, four, or five senses. The full range for the words in the norms is from .16 (SOUND) to 2.09 (FAIR), with a median of U=.92.

The validity of U ultimately depends not only on our classification of responses but also on the number of senses we have allowed a word to have. Note that there are no empty senses. A sense was not established unless our subjects' responses indicated it. Conceivably, additional subjects or different samples would result in responses to an additional sense of the word. Moreover, the question of how many senses to represent is sometimes difficult, as mentioned previously (see footnote 3). However,

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[4]This has the effect of adding A and X to the senses in proportion to the existing percentages. For example, if S_1 is twice S_2, the As are assigned to S_1 and S_2 at a 2 to 1 rate. An alternative procedure would be to make the assignment equally, i.e., half to S_1 and half to S_2, but our judgment was that, while neither correction would be totally satisfactory, the preferable assumption was proportionality. A third alternative would have been to use the percentages as given for each sense in the norms to compute U. But this is unsatisfactory, because it underestimates U by ignoring legitimate responses. A fourth alternative would have used X and A as separate categories, in effect treating them as additional senses. While this would reflect the judges' uncertainty, it would overestimate U as we have conceptualized it.

while we offer U with some uncertainty, we think it has some empirical potential.[5]

Use of the Norms

The words are arranged alphabetically in two sections. In the first section, each word is listed with its U value, followed by each sense in descending order of frequency. Each sense (Si) is followed by a number which is the percentage of responses categorized under that sense. Next is a brief sense characterization of Si in parentheses. (This characterization is neither definitive, nor theoretical--it is merely a convenience.) Then, opposite Si is a list of responses in descending order of frequency. Only responses of frequency greater than one are listed here. An exception to this is the case of a sense with no responses of frequency greater than one. Here all the single responses (responses with frequency of one) are listed. After all the senses come the X and A categories and the percentages for each. No response is listed unless its frequency is greater than one. For the A category, the ambiguity refers to all senses except where parentheses indicate the senses involved. Finally, the second section lists the singles for each word, beginning on page 33.

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[5]To name just two possibilities, it appears to take less time to process an ambiguous word than an unambiguous word (Rubenstein, Garfield, & Millikan, 1970). U may predict this relationship more exactly. Secondly, the recognition of ambiguous words as a function of verbal context (Light & Carter-Sobell, 1970; Perfetti & Goodman, 1970) may be related to U.

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ALPHABETICAL LIST OF WORDS

ACCOUNT
ACT
ADMIT
ARMS
ARTICLE
BALL
BAND
BANK
BAR
BARK
BAT
BEAR
BILL
BOARD
BOWL
BOX
BRIDGE
CABINET
CANVASS
CAPITAL
CASE
CELL
CHANGE
CHARGE
CHECK
CLUB
COACH
COLD
COUNT
COUNTRY
DEED
DOWN
DRAFT
DRILL
DUCK
EXPRESS
FAIR
FALL
FANCY
FAST
FEET
FENCE
FINE
FIRM
FLY
GENERAL
HABIT
HIDE
INTEREST
JAM
KID
LEAN
LETTER
LIGHT
LIKE
MAD
MAJOR
MASS
MATCH
MEAN
MUG
NET
NUT
ORDERLY
ORGAN
PAGE
PALM
PARK
PATIENT
PEN
PERCH
PLAIN
PLAY
POT
POUND
PRESS
PRIVATE
PUPIL
RACKET
RIGHT
RING
ROCK
ROW
SCALE
SEAL
SEASON
SECOND
SENTENCE
SHIFT
SOUND
SPELL
SPRING
STABLE
STALK
STATE
SUIT
SWALLOW
TAP
TIP
TIRE
TRAIN
TREAT
TYPE
UNIFORM
VOLUME
WATCH
WELL
YARD
YARN

ACCOUNT: U=.80

S1:73 (financial record)	bank 14, money 10, book(s) 8, number 5, checking 5, charge 4, figure 4, accountant 2, balance 2, CPA 2, job 2
S2:22 (explanation)	tell 5, explain 4, story 3, reason 2
X : 1	
A : 4	

ACT: U=.80

S1:74 (play a part)	play 42, theater 5, drama 4, pretend 4, stage 3, actress 2, perform 2
S2:19 (do)	do 8, able 2
S3: 1 (bill of law)	congress 1
X : 1	
A : 2 (S1, S2)	
3 (S1, S2, S3)	

ADMIT: U=.68

S1:82 (acknowledge)	confess 22, guilt 17, deny 7, tell 6, lie 5, honest 2, defeat 2, crime 2, truth 2
S2:18 (allow entrance)	allow 4, let in 3, movie(s) 2, hospital 2

ARMS: U=.86

S1:72 (body part)	legs 47, hands 6, embrace 4, feet 3, hug 2
S2:28 (weapons)	weapons 9, gun 7, war 3, race 2

ARTICLE: U=1.44

S1:45 (written piece)	newspaper 17, magazine 8, paper 6, journal 3, read 3
S2:37 (item)	clothing 14, thing 6, clothes 5, constitution 5, confederation 2, item 2
S3:13 (grammatical category)	the 6, a 3, adjective 2
X : 1	
A : 4 (S1, S2)	piece 3

BALL: U=.34

S1:93 (spheroid) — bat 13, round 10, play 9, bounce 6, game 6, basket 5, bowling 4, foot--3, baseball 3, red 3, beach 2, dog 2, square 2, tennis 2, rubber 2, chain 2, sports 2, roll 2, toy 2

S2: 3 (copulate (slang))

S3: 2 (dance) — dance 2

X : 2

BAND: U=.83

S1:73 (group) — music 29, group 4, play 4, marching 3, trumpet 3, orchestra 3, instruments 2, Pitt 2, Sgt. Pepper 2

S2:26 (binding device) — arm 5, wedding 4, ring 3, watch 2, rubber 2

X : 1

BANK: U=.70

S1:81 (financial institution) — money 43, account 8, check 4, robbery 4, savings 4, teller 3, piggy 2, rob 2, robber 2, save 2, vault 2

S2:19 (river's edge) — river 11

BAR: U=1.33

S1:64 (tavern) — drink 44, beer 5, tavern 3, liquor 2, maid 2, stool 2, whiskey 2

S2:16 (physical object) — jail 3, steel 2

S3:14 (exclude) — none 2, prevent 2

S4: 2 (attorney organization) — law 2

X : 3 — major 3
A : 1 (S1, S3)

BARK: U=.95

S1:62 (dog cry)	dog 53
S2:37 (tree surface)	tree 33
A : 1	

BAT: U=.98

S1:56 (club)	ball 30, baseball 19, club 3
S2:41 (winged mammal)	cave 6, fly 6, animal 3, man 3, radar 3, attic 2, black 2, mammal 2, mouse 2, vampire 2, wing 2
X : 1	
A : 2	

BEAR: U=.29

S1:93 (mammal)	animal 19, grizzly 13, black 6, big 5, lion 5, cub 4, hug 4, rug 4, polar 4, growl 3, fur 3, forest 2, rocks 2, trap 2, zoo 2, woods 2
S2: 5 (endure)	carry 3
X : 2	

BILL: U=1.49 (without S2, U=1.07)

S1:65 (money or invoice)	money 15, pay 11, payment 8, check 5, debt(s) 5, owe 5, dollar 2, invoice 2, receipt 2
S2:13 (man's name)	name 5, Bailey 2
S3:12 (beak)	duck 6, beak 2, bird 2
S4: 6 (legislation)	congress 3, legislate 2
S5: 2 (posted notice)	board 2
X : 2	

BOARD: U=.75

S1:85 (wood piece)	wood 36, nail 5, surf 5, walk 5, flat 4, table 4, black 3, boat 3, wooden 3
S2: 9 (committee)	school 5, trustees 3
S3: 6 (meals)	room 6

BOWL: U=.98

S1:58 (container)	soup 11, cereal 10, dish 6, fruit 5, cup 4, spoon 4, salad 3, shit 2, round 2, mix 2, toilet 2
S2:42 (game)	game 10, ball 8, sport 6, alley 5, pin(s) 5, fight 2

BOX: U=.66

S1:82 (container)	cardboard 14, square 9, top 7, container 5, carton 5, black 2, car 2, case 2, cereal 2, crate 2, hole 2, package 2, paper 2
S2:17 (fight contest)	fight 6, (Cassius) Clay 3, glove(s) 2, ring 2
X : 1	

BRIDGE: U=.29

S1:93 (span)	river 30, cross 12, gap 12, water 7, span 5, to nowhere 3, cars 2, jump 2, Kwai 2, over 2
S2: 5 (card game)	cards 4
X : 1	
A : 1	

CABINET: U=.74

S1:79 (furniture)	kitchen 10, cupboard 7, closet 6, medicine 6, wooden 6, dish(es) 5, maker 5, wood 4, chest 2, cup(s) 2, desk 2, drawers 2, gun 2, liquor 2, storage 2, walnut 2
S2:21 (executive body)	president 9, government 3

CANVASS: U=.50

S1:89 (fabric) — tent 23, painting 17, paint 10, artist 5, art 2, bag 2, boxing 2, circus 2, material 2, tarp 2, white 2

S2:10 (survey) — neighborhood 2, search 2

A : 1

CAPITAL: U=.61

S1:84 (major) — Washington, D. C. 40, city 8, state 8, building 7, letter 5, Harrisburg 3, dome 2, government 2, head 2, punishment 2

S2:15 (wealth) — money 8, assets 2, gains 2

A : 1

CASE: U=.99

S1:54 (situation) — study 10, court 7, history 7, lawyers 5, law 4, book 4, worker 4, trial 3, joint 2, Perry Mason 2

S2:44 (container) — beer 12, brief 6, glass 3, box 2, cabinet 2, pop 2, watch 2

X : 2

CELL: U=.96

S1:61 (prison quarters) — prison 24, jail 13, block 8, mate 3

S2:37 (biological unit) — amoeba 6, biology 6, life 6, nucleus 4

X : 2

CHANGE: U=.96

S1:61 (alter) — clothes 6, differ 2, different 2, alter 2, static 2, convert 2, weather 2

S2:38 (coins) — money 21, dollars 4, pennies 4, coins 3, dimes 2, quarters 2

A : 1

CHARGE: U=1.43

S1:45 (fee) — account 22, card 3, credit 3, plate 3, buy 2, it 2, store 2

S2:40 (rush forward) — attack 7, light brigade 6, brigade 4, run 4, horse(s) 3, army 2, bull 2, advance 2, forward 2

S3:13 (electrical energy) — battery 4, electric 4, electricity 2, electron 2

A : 2 (S2, S3)

CHECK: U=1.38

S1:61 (money) — money 29, book 7, cash 5, account 4, balance 3, bank 3, bill(s) 3, bounce 3, pay 2

S2:22 (examine) — mark 3, correct 2

S3:13 (halt) — mate 11

S4: 1 (consign) — hat 1

X : 2
A : 1 (S1, S2, S4)

CLUB: U=1.20

S1:49 (instrument) — hit 10, golf 8, stick 7, caveman 5, bat 3, beat 3, hurt 3, police 3, billy 2, foot 2

S2:45 (organization) — group 8, organization 5, house 4, country 3, sorority 3, bar 2, membership 2, might 2, night 2, social 2

S3: 4 (card suit) — cards 2

X : 1
A : 1 (S1, S2)

COACH: U=.88

S1:68 (instructor) — football 22, team 18, help 6, baseball 2, tutor 2

S2:29 (carriage) — horses 6, stage 4, --and eight 2, carriage 2, train 2

X : 3

COLD: U=.24

S1:91 (low temperature) — hot 30, warm 9, winter 9, snow 9, blue 3, freeze 3, frigid 3, ice 3, wet 3, hard 2

S2: 4 (common infection) — head 1, sore 1, virus 1, rest and aspirin 1

X : 3
A : 2

COUNT: U=.70

S1:80 (enumerate) — number(s) 46, money 10, add 5, down 3, backwards 3, fingers 2

S2:19 (nobleman) — Dracula 5, duke 3, Monte Cristo 3, countess 2, royalty 2

A : 1

COUNTRY: U=.96

S1:62 (rural area) — city 9, farm 5, field 4, --side 4, fresh 2, trees 2, boy 2, club 2, western 2, home 2, house 2, estate 2, peaceful 2, land 2, mountains 2

S2:37 (nation) — nation 8, U.S.A. 6, America 5, United States 5, state 3, government 2

A : 1

DEED: U=1.00

S1:53 (legal title) — title 10, land 9, house 8, property 7, mortgage 4, will 4, document 3, paper 3, lease 2

S2:46 (act) — good 18, act 10, done 5, do 4, action 4

X : 1

DOWN: U=.40

S1:88 (low position) — up 51, depressed 6, fall 4, hill 4, out 3, drug 2, stairs 2

S2: 8 (feathers) — feathers 5, duck 2

X : 2
A : 2

DRAFT: U=1.30

S1:69 (conscription)	army 23, dodger 7, board 5, card 5, war 3, avoid 2, men 2
S2:18 (slight breeze)	cold 6, air 5, breeze 3
S3:10 (beer)	beer 10
S4: 3 (write or draw)	table 1, paper 1, first 1

DRILL: U=.92

S1:65 (bore)	hole 18, dentist 13, oil 5, tool 5, press 4, bit 3, saw 2, teeth 2, toothache 2
S2:34 (practice)	team 6, army 5, sergeant 4
A : 1	

DUCK: U=.61

S1:80 (water foul)	quack 14, pond 9, water 9, goose 8, bird 6, waddle 4, bill 3, feathers 3, lame 2, swan 2, wood 2
S2:14 (stoop to avoid)	avoid 2, hide 2, stoop 2
X : 4	
A : 2	

EXPRESS: U=1.00

S1:52 (convey)	say 6, communicate 5, desire 3, emotion 3, feelings 3, relate 3, tell 3, opinion 2, show 2, speak 2, talk 2, thoughts 2
S2:48 (rapid transport)	train 22, fast 8, way 4, bus 2, pony 2, railway 2

FAIR: U=2.09

S1:24 (light complexion)	light 10, blond 2, complexion 2, maiden 2
S2:23 (carnival)	county 9, carnival 4, grounds 3, circus 2
S3:20 (just)	game 4, unfair 4, just 3, equal 2, justice 2
S4:18 (pleasant)	weather 6, mild 4, nice 4
S5: 2 (average)	average 1, mediocre 1
X : 2	
A :11 (S3, S4)	foul 5
(S3, S4, S5)	good 2
(S1, S5)	medium 2

FALL: U=1.19

S1:62 (descend)	down 14, hurt 8, trip 4, tumble 4, water 3, Camus 2, collapse 2, downward 2, hit 2, jump 2, out 2, rise 2
S2:26 (annual season)	autumn 12, leaves 5, winter 4, season 2, spring 2
S3: 7 (hair piece)	wig 4, hair 3
X : 3	
A : 2	

FANCY: U=.56

S1:85 (elaborate)	plain 14, frilly 9, dress 8, lace 7, frill(s) 5, pretty 5, complicated 2, elegant 2, girl 2, ornamental 2, ornate 2, pants 2, ruffles 2
S2:13 (imagine)	free 8, that 2
X: 1	
A : 1	

FAST: U=.48

S1:91 (quick) — slow 21, quick 15, speed 7, speedy 6, car 4, rapid 4, run 4, mover 3, plane(s) 3, runner 3, swift 2

S2: 7 (abstain) — starve 3, eat 2, hungry 2

S3: 1 (firm) — stuck 1

A : 1

FEET: U=.33

S1:90 (body parts) — toes 28, shoes 19, hands 8, walk 8, socks 3, arms 2, legs 2

S2: 6 (units of measure) — inches 2

X : 2
A : 2 — foot 2

FENCE: U=.74

S1:84 (barrier) — picket 11, yard 9, gate 8, wall 6, climb 5, wooden 5, barrier 3, enclosed 3, wire 3, border 2, closed 2, field 2, keep out 2, post 2, rail 2, screen 2, secluded 2, white 2

S2:11 (sport) — swords 4, foil 2

S3: 4 (deal in stolen goods) — crime 1, heist 1, pawn broker 1, steal 1

A : 1 (S1, S2)

FINE: U=1.31

S1:59 (penalty) — penalty 8, ticket 8, money 7, pay 6, tax 4, parking 3, payment 3, police 3, jail 2, parking meter 2

S2:28 (good) — good 15, beautiful 3, great 3, excellent 2, well 2

S3:11 (delicate) — coarse 2, small 2, thin 2

X : 1
A : 1 (S2, S3)

FIRM: U=.53

S1:85 (solid)	hard 30, solid 8, breast 5, strong 5, grip 4, ground 3, adamant 2, muscles 2, soft 2
S2:11 (business establishment)	company 4, business 2, corporation 2, organization 2
X : 1	
A : 3	

FLY: U=1.11

S1:60 (airborne)	airplane 10, bird 8, plane 6, high 5, jet 5, air 2, ball 2, baseball 2, sky 2, trip 2, up 2, walk 2
S2:29 (insect)	insect 12, bug(s) 2, ointment 2
S3: 4 (zipper)	zipper 2
X : 3	
A : 4 (S1, S2)	wings 3

GENERAL: U=.83

S1:74 (military rank)	army 29, captain 6, colonel 6, soldiers 4, deGaulle 3, lieutenant 3, officer 3, Westmoreland 3, Custer 2, MacArthur 2, major 2
S2:26 (nonspecific)	specific 4, broad 3, common 2

HABIT: U=.61

S1:85 (accustomed behavior)	smoking 12, forming 10, bad 6, custom 5, good 4, daily 3, routine 3, always 2, drug(s) 2, nails 2, normal 2, smoke 2
S2:15 (garment)	nun 12

HIDE: U=.68

S1:80 (conceal)	seek 35, run 8, find 7, conceal 5, game 4, closet 2
S2:18 (skin)	skin 10, cow 2, leather 2
X : 1	
A : 1	

INTEREST: U=.81

S1:73 (concern)	hobby 8, like 6, boring 3, excitement 3, attention 2, concern 2, enthusiasm 2, express 2, fun 2, girls 2, group 2, lack 2, life 2, science 2, sports 2, varied 2
S2:26 (money)	money 9, bank 6, rate 3
X : 1	
A : 1	

JAM: U=1.45

S1:54 (fruit preserves)	jelly 30, bread 7, grape 4, strawberry 4, toast 4, preserves 2
S2:22 (crowd)	packed 5, traffic 5, break 2, crowd 2
S3:22 (music)	session 11, dance 4, jazz 2, music 2, play 2
X : 2	

KID: U=1.37

S1:51 (child)	child 26, brother 6, boy 5, baby 3, sister 3
S2:36 (young goat)	goat 29, gloves 7
S3:10 (to joke)	joke 7
X : 1	
A : 2 (S1, S2)	Billy 2

LEAN:	U=1.00	
	S1:52 (thin)	thin 12, meat 10, skinny 6, fat 5, hungry 3, beef 2, fatty 2, slender 2
	S2:47 (tilt)	fall 6, lean to 6, towards 5, against 3, on 3, support 3, bend 2, lazy 2, pole 2, stand 2
LETTER:	U=.44	
	S1: 87 (correspondence)	write 18, mail 16, envelope 8, paper 5, stamp(s) 4, home 3, friend 2, girl 2, mailbox 2, post 2, postcard 2
	S2: 8 (alphabet)	alphabet 3, a 2
	X : 1	
	A : 4	word(s) 2
LIGHT:	U=.29	
	S1:93 (not dark)	bulb 21, dark 21, fire 7, bright 6, lamp 4, sun 4, match 3, candle 2, day 2, house 2
	S2: 5 (not heavy)	heavy 4
	X : 2	
LIKE:	U=.63	
	S1:77 (have affection for)	love 36, friend(s) 9, hate 8, dislike 7, girl(s) 2
	S2:14 (similar)	similar 6, as 2, same 2, unlike 2
	X : 3	
	A : 6	compatible 2, me 2
MAD:	U=1.00	
	S1:52 (angry)	angry 38, anger 2, happy 2, mean 2
	S2:46 (insane)	dog 16, magazine 11, insane 8, crazy 2, Hatter 2, primer 2
	A : 2	

MAJOR: U=.93

S1:63 (significant)	minor 27, important 7, biophysics 3, education 2, history 2, interest 2
S2:35 (military rank)	army 16, general 7, Major Major 4, captain 2, rank 2
X : 2	

MASS: U=1.55

S1:38 (large numbers)	people 8, crowd 6, group 3, media 3, hide 2, many 2, society 2
S2:35 (church service)	church 26, black 2, Sunday 2
S3:22 (quantity of matter)	weight 8, density 2, f/g 2
X : 1	
A : 4 (S1, S3)	numbers 2, whole 2

MATCH: U=.89

S1:68 (ignitor)	fire 21, light 16, cigarette 12, strike 5, stick 4, book 2, box 2, burn 2, flame 2
S2:30 (pair together)	--maker 3, pair 3, fight 2, game 2, mix 2, same 2, tennis 2, wrestling 2
X : 2	

MEAN: U=.98

S1:74 (unkind)	nasty 15, cruel 13, bad 5, kind 5, nice 4, harsh 3, rotten 3, dog 2, snarl 2, stern 2
S2:18 (average)	average 11
S3: 2 (small)	little 1, unimportant 1
S4: 1 (intend)	intend 1
S5: 1 (meaning)	definition 1
A : 4	

MUG: U=1.25

S1:51 (assault)	beat 8, attack 4, beat up 4, rob 4, hit 3, rape 3, robber(s) 3, shot 3, crime 2, fight 2, thug 2
S2:38 (container)	beer 17, coffee 7, cup 6, glass 3, drinking 2
S3: 6 (face)	picture 4
X : 5	

NET: U=.47

S1:84 (meshed fabric)	fish 30, tennis 12, hair 11, catch 5, fishing 5, basketball 3, butterfly 3, volleyball 3
S2:10 (remainder)	gains 3, gross 3
X : 6	

NUT: U=1.24

S1:65 (shelled fruit)	crack 8, squirrel 8, cracker 7, cashew 4, peanuts 4, shell 4, almond 3, eat 3, pecan 3, tree 3, acorn 2, fruit 2, walnut 2
S2:21 (eccentric person)	crazy 11, goof 2, me 2
S3:11 (bolt)	bolt 11
X : 2 A : 1	

ORDERLY: U=.98

S1:56 (organized)	neat 19, arranged 2, conduct 2, disorderly 2, methodical 2, unorderly 2
S2:39 (attendant)	hospital 30, army 3, nurse 2
X : 2 A : 3	

ORGAN: U=.98

S1:57 (musical instrument)	music 17, piano 10, grinder 8, church 5, pipe(s) 5, Bach 2, play 2, player 2
S2:40 (body part)	body 10, heart 10, sex 5, penis 3
X : 1	
A : 2	

PAGE: U=.99

S1:54 (paper)	book 37, read 3, letter 2, paper 2, yellow 2
S2:45 (attendant)	call 13, boy 11, squire 5, king 3, senate 2
X : 1	

PALM: U=.93

S1:62 (hand)	hand 50, reading 3, fingers 2, reader 2
S2:32 (tree)	tree 20, Sunday 6
X : 6	

PARK: U=.99

S1:47 (car)	car 32, neck 6, ticket 5, stop 2
S2:38 (recreation area)	trees 8, bench 5, Central 4, grass 4, Schenley 4, picnic 3, field 2, green 2
X: 5	listen 2
A: 10	girl 2

PATIENT: U=.91

S1:64 (medical client)	hospital 28, doctor 20, sick 9, nurse 2, sickness 2
S2:32 (tolerant)	calm 8, kind 3, wait 3, time 2, virtue 2, waiting 2
X : 2	
A : 2	

PEN: U=.53

S1:87 (writing tool)	ink 30, write 23, pencil 22, knife 2, letters 2, Parker 2
S2:12 (fenced-in-area)	pig 3, rooster 3, egg 2
X : 1	

PERCH: U=.87

S1:70 (sit)	bird 43, sit 6, tree 5, vulture 3, canary 2, parrot 2
S2:29 (fish)	fish 24
X : 1	

PLAIN: U=.92

S1:54 (simple)	fancy 17, simple 11, surface 7, dull 2, honest 2, Jane 2, truth 2, ugly 2
S2:28 (prairie)	Kansas 4, desert 2, fields 2, prairie 2, valley 2
X : 7	train 4, time 3
A : 1	flat 4, smooth 3, devoid 2, rough 2

PLAY: U=.96

S1:58 (game)	game(s) 19, fun 9, work 4, ball 3, children 3, child 2, pen 2, thing 2
S2:36 (drama)	drama 10, act 4, actor 4, theater 4, show 3, perform 2, stage 2
A : 6	

POT: U=.99

S1:55 (marijuana)	smoke 21, marijuana 13, drug(s) 5, grass 5, head 2
S2:45 (container)	pan 25, cook 4

POUND: U=1.56

S1:52 (weight)	weight 25, ounce 14, fat 2
S2:21 (strike)	hammer 8, beat 5, fist 2, hit 2, knock 2
S3:12 (currency)	money 4, sterling 4, dollar 2, shillings 2
S4: 5 (animal enclosure)	dog 3
X : 2	
A : 6 (S1, S2)	meat 6
2 (S1, S3)	

PRESS: U=.93

S1:62 (pressure)	iron 12, push 9, hard 4, pull 4, button 3, pressure 3, weight 3, bar 2, lift 2, pants 2, touch 2
S2:34 (newspapers)	newspaper 15, paper 9, news 6, Pittsburgh 3
X : 1	
A : 3	printing 2

PRIVATE: U=.78

S1:77 (not public)	alone 10, personal 8, room 6, property 5, secret 4, intimate 3, office 3, closed 2, eye 2, life 2, party 2, secluded 2, secretive 2, sex 2
S2:22 (military)	army 13, sergeant 3, soldier 2
X : 1	

PUPIL: U=.97

S1:59 (eye)	eye 48, iris 5, dilated 4
S2:39 (student)	student 30, school 3, teacher 3
A : 2	

RACKET: U=1.33

S1:61 (sport)	tennis 53, club 2, sports 2
S2:25 (illicit business)	squad 13, crime 3, Mafia 2, numbers 2
S3:14 (noise)	noise 11, commotion 2

RIGHT: U=.44

S1:80 (correct)	wrong 65, correct 4, proper 2
S2: 8 (direction)	left 8
X : 6	
A : 6	

RING: U=.72

S1:79 (circular object)	finger 25, diamond 9, marriage 8, wedding 8, engagement 7, gold 2, toss 2, wear 2
S2:19 (bell sound)	bell 11, doorbell 3
X: 1	
A: 1	

ROCK: U=1.16

S1:69 (stone)	stone 26, hard 12, bottom 7, mountain 3, throw 3, island 2, minerals 2
S2:15 (music)	music 7, --'n' roll 4, acid 2
S3:12 (motion)	boat 7
X : 4	

ROW: U=.76

S1:68 (boat)	boat 55, oar 5, paddle 3, ship 3
S2:20 (linear order)	aisle 3, house 3, line 3, seeds 3, field 2, order 2
X : 8	
A : 4	turn 2

SCALE:	U=.92	
	S1:80 (measure)	weight 40, weigh 17, music 5, musical 3, measure 2, pounds 2
	S2:10 (climb)	climb 6, cliff(s) 2, wall(s) 2
	S3:10 (fish skin)	fish 9
SEAL:	U=1.26	
	S1:49 (close)	close 20, letter(s) 8, envelope 7, lick 5, wax 2
	S2:39 (animal)	animal 9, zoo 5, ball 4, ocean 3, walrus 3, Alaska 2, flipper(s) 2
	S3: 6 (official mark)	approval 4
	A : 6 (S1, S3)	stamp 3
SEASON:	U=.50	
	S1:89 (time of year)	summer 15, fall 12, spring 10, autumn 8, winter 8, year 7, --of the witch 6, greetings 3, football 2, four 2, weather 2
	S2:11 (food flavoring)	salt 4, pepper 3, taste 3
SECOND:	U=.99	
	S1:52 (ordinal number)	first 26, third 9, base 4, beat 2, loser 2, two 2
	S2:43 (time)	minute(s) 22, time 17, instant 2
	A : 5	hand 4
SENTENCE:	U=.58	
	S1:83 (grammatical unit)	word(s) 20, phrase 10, paragraph 9, period 9, structure 7, grammar 5, fragment 4, subject 3, English 2, question 2
	S2:13 (punishment)	death 4, prison 3, term 2
	A : 4	end 2, long 2

SHIFT: U=.79

S1:83 (change)	move 26, change 16, gear(s) 12, car 3, sail 3, stick 3, weight 2
S2: 9 (type of dress)	dress 7
S3: 7 (period of time)	night 2, work 2
X : 1	

SOUND: U=.16

S1:95 (audible stimulus)	noise 34, music 16, wave(s) 7, hear 5, silence 5, fury 4, ear(s) 3, voice 3, energy 2, vibration(s) 2
S2: 1 (solid)	proof 1
S3: 1 (submerge)	submarine 1
A : 2 (S1, S2) 1 (S1, S3)	

SPELL: U=.87

S1:76 (orthography)	word(s) 46, write 6, bee 5, letters 4, wrong 3, English 2, read 2
S2:17 (supernatural event)	magic 4, witch 4, trance 2
S3: 3 (period of time)	dry 1, duration 1, hot 1
A : 1 (S1, S2) 2 (S2, S3) 1 (S1, S2, S3)	

SPRING: U=1.34

S1:50 (season)	summer 12, season 11, fall 4, flower(s) 3, time 3, birds 2, sun 2
S2:40 (coil)	jump 11, bed 6, bounce 4, coil 4, leap 3, mattress 2, oscillation 2
S3: 9 (source of water)	water 5, well 2
A : 1 (S2, S3)	

STABLE: U=.99

S1:54 (barn)	horse 44, barn 2, hay 2
S2:41 (unchanging)	unstable 6, firm 5, steady 3, balance 2, cube 2, normal 2, sound 2
X : 2	building 2
A : 3	

STALK: U=.99

S1:53 (hunt)	hunt 11, prey 8, walk 5, animal 4, kill 4, chase 3, cat 2, follow 2
S2:43 (plant stem)	corn 23, celery 8, stem 4, plant 3, bean 2
X : 3	
A : 1	

STATE: U=.99

S1:64 (political unit)	Pennsylvania 29, country 8, city 6, government 6, New York 2
S2:19 (say)	say 7, explain 2, express 2
S3: 4 (status)	condition 2, --of mind 2
A :11 (S1, S3)	union 8, affair(s) 3
1 (S2, S3)	
1 (S1, S2, S3)	

SUIT: U=.44

S1:91 (clothing)	clothes 21, tie 13, coat 11, dress 9, clothing 5, jacket 5, man 4, men's 3
S2: 9 (litigation)	law 3, court 2, file 2

SWALLOW: U=.50

S1:87 (ingest)	gulp 19, food 13, eat 11, throat 11, drink 5, hard 3, pill(s) 3, water 3, whole 3, chew 2, digest 2
S2:11 (bird)	bird 6, Capistrano 3
X : 2	

TAP: U=.63

S1:78 (strike lightly)	dance 13, touch 7, knock 7, hit 6, noise 5, shoulder 5, drum(s) 3, finger(s) 3, rap 3, pencil 2
S2:15 (spigot)	water 7, keg 2
X : 7	herd 2

TIP: U=1.36

S1:44 (gratuity)	waiter 14, money 10, waitress 10
S2:42 (edge)	top 8, point 6, end 4, pencil 4, hat 3, over 2, spill 2, toe 2
S3: 9 (advise)	off 3, advise 2, first aid 2
X : 5	

TIRE: U=.70

S1:76 (wheel)	car 36, wheel(s) 13, flat 6, rubber 6, rim 3, jack 2, round 2, tread(s) 2
S2:18 (become fatigued)	sleepy 5, exhausted 3, weary 3
X : 5	
A : 1	

TRAIN: U=.70

S1:78 (railroad)	track(s) 16, whistle 9, locomotive 7, engine 4, railroad 4, choo-choo 3, express 3, station 3, transportation 3, travel 3, locomotion 2, plane 2, ride 2
S2:19 (instruct)	teach 6, dog 5, condition 2

TREAT: U=.92

S1:70 (goodies)	candy 21, trick 11, Halloween 8, ice cream 7, food 3, gift 2, snack 2
S2:11 (medical aid)	take care of 3, cure 2, give help 2
S3: 9 (relate socially)	well 3
X : 4	
A : 5 (S1, S2)	good 4
1 (S2, S3)	

TYPE: U=.84

S1:67 (print)	typewriter 13, write 7, letter(s) 6, paper 6, print 4, secretary 4, fast 2, term paper(s) 2, word(s) 2
S2:25 (category)	kind 10
X : 6	
A : 2	

UNIFORM: U=.92

S1:59 (standard clothing)	army 13, soldier 6, military 5, nurse(s) 5, clothing 3, dress 3, football 3, police 3, policeman 2, professional 2
S2:30 (alike)	same 6, alike 2, code 2, conformity 2
A :11	school 4, orderly 2

VOLUME: U=1.57

S1:37 (sound)	loud 11, loudness 7, sound 6, tone 3, stereo 2, treble 2, up 2
S2:34 (book)	book(s) 21, encyclopedia 11
S3:25 (space)	cubic 3, space 3, density 2, mass 2, water 2
X : 1	
A : 3 (S1, S3)	much 2

WATCH: U=.76

S1:78 (chronometer)	time 41, clock 13, wrist 6, tick 5, broken 4, stop 4, time piece 2
S2:22 (observe)	look 4, listen 3, observe 3, eye(s) 2, girls 2, stare 2

WELL: U=.99

S1:68 (underground source)	water 31, deep 15, dig 6, hole 5, bucket 4, wishing 3, oil 2
S2:27 (positive state)	sick 10, good 8, healthy 3, off 2
S3: 2 (interjection)	oh 1, so 1
A : 1 (S1, S2) 2 (S1, S2, S3)	

YARD: U=.89

S1:64 (lawn)	grass 22, play 12, lawn 8, back 4, house 3, playground 3, bird 2, garden 2, green 2
S2:29 (unit of measure)	stick 6, inch(es) 5, foot 4, measurement 4, measure 3, length 2, 3 feet 2, 36 inches 2
X : 3	forever 2
A : 4	wide 3

YARN: U=.70

S1:79 (fabric strands)	knit 31, wool 11, sweater 6, thread 6, ball 5, string 5, cat 3, knitting 3, darn 2
S2:19 (story)	story 8, tale 8
X : 2	

SINGLES

ACCOUNT

S1: add, amount, bank account, bookkeeping, count, embezzle, executive, file, --ing, ledger, one two, order, record, responsibility, savings, uncle

S2: action, ask, deed, define, describe, make up, mystical, relate, retell, thread
X : accompany
A : discount, loose, note, statement

ACT

S1: actor, charades, dog, dramatize, Burrell, fake, mime, player, rehearse

S2: deed, direct, forget, now, omission, psychology, run, softly

S3: congress
X : monitor
A : (S1, S2): might, preparation
(S1, S2, S3): act, rent, the

ADMIT

S1: conceal, construe, court, defy, false, fault, guilty, hate, honesty, keep, nothing, rape, remit, say, search, submit, testify, trial, verify, wrong

S2: discharge, enter, entrance, entrance exam, gate, leave, let, life

ARMS

S1: appendage, beautiful, body, bones, caress, chair, limbs, long, man, sunburned, two, Venus

S2: banner, defense, farewell to, limitation, munitions, necessary, strife

ARTICLE

S1: account, author, column, long, playboy, publish, story, write, writing

S2: faith, law, merchandise, product unit

S3: grammar, preposition, vowel
X : ten
A : (S1, S2): proviso

BALL

S1: Babe, genital, golf, jacks, kick, pus, string

S2: screw
X : jilt, open

BAND

S1: army, baritone, Beatles, boys in the--, college, dance, flute, horn, John Philip Sousa, Kid Who Owes You $40, loud, men, organ, rock, rock and roll, together, trombones

S2: aid, bandage, cigar, elastic, gum, head, package, saw
X : symbol

BANK

S1: Americard, checking, corporate, count, loan, manager, security, silver lions

S2: curves, fly, hill, left, shot, Seine, stone, stream

BAR

S1: Buffedeni's, dive, drunk, fight, fly, restaurant

S2: ban, block, entry, exclude, keep out, lock, refuse, reject, restrain, separate, you

S3: bell, candy, cell, chin, chocolate, gold, gym, iron, metal, pole, press, ranch
A : (S1, S2): enter

BARK

S1: bite, growl, my sister the dog, noise, order, sound, squack, woof-woof, yap

S2: birch, cork, peel, sycamore
A : brown

BAT

S1: duck, hit, jar, swat

S2: bird, blind, night, small, sonar, ugly, Vincent Price
X : friend
A : bat, touch

BEAR

S1: brown, Chicago, furry, hunt, market, mountain, paw, Smokey the, three, tiger, wolf, yogie

S2: fruit
X : admit, nothing

BILL

S1: account, charge, electric, fee, fold, light, notice, paper, purchase, sales, telephone

S2: Fred, friend, Jane, love, Mazeroski, person

S3: coo, pelican

S4: senate
X : home, up

BOARD

S1: build, built, bulletin, construction, diving, even, evict (board up), feet, foot, ironing, lumber, plank, slat

S2: judicial

BOWL

S1: apple, cherries, china, cole, deep, glass, orange colored, saucer, sugar

S2: duckpin, field, fun, lane, may, me-terrific, strike

BOX

S1: bag, caged, candle, cash, circle, confine, contain crackers, empty, enclose, enclosure, feminine genitalia, filled, inside, Jack-in-the--, kite, lid, open, present, rectangle, ribbon, safe, shoe, sphere, spider, store, strong, treasure, wood, wooden

S2: beat, Louis, prizefighter, sport, war
X : nude

BRIDGE

S1: American, American Bridge Co., at Remagen, bony, bricks, connection, covered, dentures, Ford, George Washington, golden, metal, one lane, Pittsburgh, silver, steel, suspension, valley, Westinghouse

S2: social game
X : candy
A : bridge

CABINET

S1: breakfront, buffet, carpenter, clothes, door, food, furniture, green, holder, inlay, lacquer, maple, messy, of Dr. Caligari, pine, record, shelf, store

S2: advisors, choice, collection of people, committee, executive, member, Nixon, post, Rusk, ten

CANVASS

S1: awning, back, boat, camping, cloth, cover, denim, drum, Gesso, matte board, oils, portrait, rubber, sculpture, sheet, shoes, stretched, studio, tablecloth, tarpaulin, tonneau, wrestler

S2: candidate, door-to-door, McCarthy, political, poll, scour hunt, survey
A : sell

CAPITAL

S1: crime, H, hill, idea, London, main, rulers, small

S2: economics, expenditure, Marx
A : maximum

CASE

S1: book method, criminal, defense, good, jury, legal, look over, out, spy

S2: attache, bag, bottles, carton, chest, coke, container, flat box, glasses, guitar, holder, luggage, pillow, suitcase, train, valise
X : bass, more

CELL

S1: alone, blast, celibate, cold, convict, dungeon, hard, prisoner

S2: animal, body, Commintern, Communist, DNA, molecule, my body, part, six-sided
X : glad

CHANGE

S1: adapt, address, amend, around, clothing, construct, consult, continuity, curve ball, delta, dress, erase, everything, evolve, flux, good, head, I Ching, lock, metamorphosis, mind, move, mutate, now, omit, over, progress, rearrange, reform, reoccur, reorganize, revert, revolution, same, seasons, temperament, ties, tire, transform, transient, undress, untouched, vary, werewolf, yourself

S2: nickle, purse
A : bus

CHARGE

S1: cash, clothes, cost, crime, department store, fee, money, murder, offense, prostitution

S2: ahead, bayonet, bullfight, cavalry, fight, Indians, spear, start, war, 600

S3: ion, positive
A : (S2, S3): gunpowder, storm

CHECK

S1: cancelled, charge, money order, tip

S2: doctor, examine, eyes, inspect, look, mistake, observe, out, over, point, positive, recheck, re-examine, revise, search, sure, test, word

S3: ice hockey, stop

S4: hat
X : compulsive, talk
A : (S1, S2, S4): work

CLUB

S1: bash, brutal, mace, misshaped, sock

S2: activity, baseball, belong, boys, bridge, clique, discreet, drink, executive, fellow, fraternity, hobby, join, members, party, password,

S3: heart, spade
X : Phil Hampton
A : (S1, S2): with

COACH

S1: ball game, basketball, Bear Bryant, cheat, egg on, Flynn, gym, instruct, instructor, leader, learn, manager, Mr. Williams, prod, prompt, speech, sports, training, win

S2: buggy, bus, car, carry, charabanc, comfortable, Corvette, house, passenger, pumpkin, sit, stand by, vehicle, wheels
X : black, funny, terms

COLD

S1: alone, beer, chicken, coke, distant, draft, fish, freezing, froid, hair, hands, heat, room, times, touch, uncomfortable, water, weather, women's legs

S2: head, rest and aspirin, sore, virus
X : brush, height, Pope
A : nose, tenable

COUNT

S1: amount, head, higher, index, infinite, mathematics, one two three, out, rate, sheep, ten, things

S2: Basie, castle, knight, nobility, prince

COUNTRY

S1: barns, beautiful, cousin, fair, fresh vegetables, girl, grass, green, Joe, kettle, lore, mile, music, pastoral, peacefulness, picnic, rural, sausage, scenery, summer, sylvan, walk

S2: Britain, civilization, democracy, France, leave, my, my country 'tis of, patriot, society, Vietnam, world
A : people

DEED

S1: contract, home, inherit, landlord, seal

S2: courage, event, heroic, kind, task, work
X : death

DOWN

S1: bad experience, bend, blue dome, bottom, chasm, deep, defeated, descend, direction, football, goes the lady, ground, hurt, in, low, suppressed, to, tranquilizers, under, Wheeling

S2: soft
X : owed
A : down, touch

DRAFT

S1: bait, bureaucracy, Canada, child, constitution, damn, deferment, die, enlist, exempt, extortion, fighting, immoral, induction, invasion, Larry 1A, law, Nixon, not me, protest, resistance, resistor, Selective Service, unfair, Vietnam

S2: chill, stiff neck, wind, window, windy

S3:

S4: first, paper, table

DRILL

S1: air hammer, cheese, electric, electricity, hammer, hydraulic, machine, masonry, nut cracker, road holes, sex organ in, well, wood

S2: act, arithmetic, constant, examination, exercise, fire, football, instructor, lesson, master, math, physical training, practice, ROTC, repeat, routine, soldier, train, troupe, waste, work
A : bore

DUCK

S1: animal, aqua, beak, chicken, drake, duckling, feet, frog, geese, hunting, lake, mallard, pin, rubber, soup, swim, ugly, walk, webbed, wet, white

S2: crouch, dodge, draft, hit, lowdown, miss, move, now, under
X : follow, me, Switzerland, Virginia
A : last, swoop

EXPRESS

S1: announce, art, articulate, clear, concern, creation, explain, expound, idea, John Gault, listen, mean, myself, paint, speech, story, truth, try, what, word

S2: choo-choo, Greyhound, highway, non-stop, quick, railroad, rapid, Ryan

FAIR

S1: beau, dark, delicate, haired, lady, pale, skin, ugly, youth

S2: amusements, balloon, grange, merry-go-round, park tents

S3: equitable, even, honest, play, right, teacher

S4: clear, cloudy, day, rain, sunny

S5: average, mediocre
X : affair, money
A : (S1, S3): people
(S2, S5): fancy

FALL

S1: accident, Adam, bridge, climb, drop, far, fear, free, guy, hard, injure, injury, into, long corridor, Niagara, pain, step, up

S2: brown gold, colors

S3:
X : Calvin, pay, whole
A : (S1, S3): girls, mane

FANCY

S1: art, Baroque, beautiful lady, brocade, car, clothes, costume, elaborate, expensive, extravagant, foot, frivolous, gaudy, gown, intricate, neat, ornamentation, rich, shirt, showy, silly, simple, ugly, unimportant, whore, wild, wow

S2: desire, fact, imagine, whimsy
X : jacks
A : like

FAST

S1: black, Bob Hayes, boy, bus, cycle, easy, excited, furious, guy, jet, lives, loose, Lou Brock, motion, mouse, pace, Porsche, quickly, screwing, track, whizz, zoom

S2: abstain

S3: stuck
A : (S2, S3): hard

FEET

S1: athlete's fungus, bare, body, bottom, cute, first, ground, hurt, le pied, moving toes, nails, odor, run, size 9 1/2, skin, smell, stink, two, up walking

S2: measure, measurement, meter, yards
X : business, E pie

FENCE

S1: apart, barbed, brick, brown, cage, cattle, dog, exclusion, garden, gossip, grass, high, in, iron, pasture, protect, surrounded

S2: epee, fight, joust, on guard, parry, sport

S3: crime, heist, pawnbroker, steal
A : (S1, S2): block

FINE

S1: arrest, bill, bind, cop, court, imprisonment, judge, law, levy, paid, penalize, punishment, sanction, traffic, violation

S2: dandy, desirable, nice, very good

S3: point, rough, sharp, smooth, surface
X : grace
A : (S1, S3): women

FIRM

S1: body, discipline, durable, erect, flat, footing, girdle, girl, good, harsh, hold, loose, mattress, mother, parents, secure, sex organ, staunch, steady, sturdy, surface, tender, tight, touch, tough, unyielding, young

S2: law, lawyers
X : flatter
A : foundation, government, psychiatrist

FLY

S1: away, clouds, down, fun, height, me to the moon, night, Peter Pan, return, sail, soar, spaceship, superman, TWA

S2: annoying, bait, bee, black, cast, dirt, fruit, kill, mosquito, rest, screen, spider, trap, wood

S3: pants, zip
X : influence, tree, two
A : (S1, S2): ceiling

GENERAL

S1: admiral, braid and brass, corporal, Eisenhower, fascism, 4 star, Grant, Lee, military, orders, Sherman, stars

S2: all, anything, around, average, disorderly, everything, exact, good, health, knowledge, musical, ordinary, overall, plumbing, principles, studies, unspecific, vague

HABIT

S1: accustomed, addicted, again, alcoholic, automatic, break, cigarettes, complacent, constant, control, dirty, eating, everyday, evil, fix, force, form, habitual, involuntary, life, masturbate, natural, necessity, none, peculiarity, reaction, regular, recurrent, same, smack, stop, strength, subconscious, unchanging

S2: frock, monk, robe

HIDE

S1: afraid, arms, bushes, concealment, discover, escape, exact, expose, fear, look, lost, money, open, play, presents, scared, secret, surprise, trouble, true

S2: calf, cattle, deer, tan
X : sex organ
A : cover

INTEREST

S1: apathetic, appeal, books, catch, content, curious, desire, enjoyment, everything, fascinate, find out, goal, ideas, involvement, karate, knowledge, liking, man, map, medicine, men, music, occupation, personable, photography, politics, read, school, science, special studies, sympathy, women

S2: accrue, biannual, compound, loan, pay, percentage, premium, tax, time
A : making

JAM

S1: berry, honey, marmalade, mess-mouth, peanut butter

S2: cock in, cram, door, fix, group, pack, push, roller, derby, squeeze, trouble

S3: party, rapping
X : donk, mess

KID

S1: bad, brat, children, doll, house, parent, person, punk, you, youth

S2: calf

S3: annoy, around, banter
X : need

LEAN

S1: boy, lank, lanky, man, sleek, slight, slim, steak, tall, well-done

S2: angle, depend on, drunk, falter, far, hut, recline, relax, rest, resting, right, slant, topple
X : need

LETTER

S1: answer, billet, box tops, card, correspondence, epistle, girlfriend, grandmother, happiness, head, Jeff, long, man, note, open, opener, pad, pen, pink, postman, Ron, sealing wax, send, Ted, writer, wrote

S2: award, mark, print, S
X : axillae
A : letter, spell

LIGHT

S1: blue, darkness--void, electric, electricity, glow, illuminate, incandescent, photons, ray, search, see, show, shut it, synagogue, tower, way, window

S2: skinny
X : all right, imagine

LIKE

S1: admire, adore, affection, aime, amiable, cereal, enjoy, fine, good, life, lone, men

S2: familiar, unto
X : like man, lose, team
A : false, together

MAD

S1: furious, nice, rage, rarely, red, temper, thug, upset, violent

S2: foam, men, raving, Russian, Sade, sane
A : boy, world

MAJOR

S1: advisor, baby, bed, biology, college, course, crib, dominate, engineering, English, great, greater, medicine, my, operation, physics, political, primary, psy, school, study, subject, top

S2: Lee Marvin, military officer, official brass, private, sir
X : Christ, drum

MASS

S1: aggregate, bunch, conglomeration, doctor, drill, humanity, majority, population, riot, transit, transportation, widespread

S2: candles, Christ, priest, religion, requiem

S3: addition, algebra, area, arithmetic, atomic weights, charts, clay, glob, heavy, matter
X : book

MATCH

S1: cover, pipe, stove, sulphur

S2: agree, alike, associate, compare, comply, couple, mate, opponent, order, perfect, plaids, put together, set, word
X : stock, surprise

MEAN

S1: angry, bitter, bossy, brute, crab, evil, grouchy, grrr, hurt, Joe Green, mad, man, --ness, people, person, sad, selfish, tough, unfriendly, unkind, wicked, yell

S2: extreme, median, middle, mode, statistics, test, variance

S3: little, unimportant

S4: intend

S5: definition
A : (S2, S3): cheap, (S4, S5): understand, (S1, S4, S5): effect
(S2, S4, S5): true

MUG

S1: assault, bleed, criminal, help, hold up, hoods, hurt, kill, mugger, murder, police, prison-pig, robbery, roll, slug, thief, women

S2: drink, glasses, pewter, root beer, thick

S3: face, teeth
X : Hershey, legs, me, mother, nice

NET

S1: badminton, ball, beauty, cage, fly, lace, mask, mental, weave

S2: income, loss, result
X : car, fern, pet, reach, unable

NUT

S1: Brazil, chestnut, chipmunk, cracker suite, dry fruit, food, good, hard, hickory, ice cream, jungle, meat, pistachio, snack

S2: asylum, insane, insanity, jerk, psycho, weird

S3:
X : bird, ped
A : (S1, S2, S3): nuts

ORDERLY

S1: books, chaos, circle, clean, decently, even, fashion, fashionable, first, horrible, me, messy, mother, my roommate, organized, pattern, peaceful, quietly, regular, revolt, right, room, rows, sloppy, society, square, structured, systematically, unity, wheels

S2: side, attendant, doctor, male, medic
X : orgy, white
A : custodian, person, stable

ORGAN

S1: chord, Hammond, lessons, played, speakers, toy, wedding

S2: eye, genital, gland, internal, living tissue, lung, male, research, sense, sensory, stomach, tool, vital
X : legger
A : house, mouth

PAGE

S1: assigner, leaf, library, look through, number, paragraph, printed, sheet, turn

S2: airport, ask for, court, hotel, knight, medieval, P. A. system, person, Phillip Morris, servant, wig, White House
X : crazy

PALM

S1: basketball, life line, pad, palmistry, reaching

S2: beach, church, coconut, Florida, Hawaii, island, song
X : bounce, corridor, fence, house, knight, none

PARK

S1: lot, meter, wreck

S2: flowers, grassy, lawn, lost, peaceful, play, relax, skate
X : eat, night, string
A : back, city, danger, dark, kiss, love, New York, space, talk

PATIENT

S1: dead, die, record, sheet

S2: agreeable, anxious, beautiful, impatient, impossible, lenient, long, loving, prudent, quiet, restive, teacher, tolerant
X : no, stripped
A : person, restful

PEN

S1: ballpoint, Bic, fountain, hand, handle, pal, poetry, quill

S2: cage, cell, house, prison
X : hurt

PERCH

S1: corner, nest, precariously, rest, set, sparrow, squat, stand on, top, twig, wait

S2: dinner, flounder, salmon, scales, trout
X : paper

PLAIN

S1: figure, plain clothes, polka dot, writing

S2: level, Montana, Oklahoma, super flat, tree, vast, wheat

PLAY

S1: bed, cards, Doh, free, friends, frolic, happy, house, love, music, pleasure, recreation, run, sport, swing, tumble

S2: acting, Broadway, movie, New York, Sartre, Shakespeare, story, words
A : enjoy, learn, piece, play, school, sick

POT

S1: bad, concert, dope, hash, hit

S2: aspidistra, belly, bottle, cuspidor, fat, flower, hot dogs, kettle, porcelain, reflection

POUND

S1: cake, candy, diet, dram, flesh, gain, heavy, lose, mail, measure, scale, 7' 11"

S2: enemy, kill, rock

S3: quid

S4: greyhound, zoo
X : games, species
A : (S1, S3): seventy, twenty-five

PRESS

S1: bar bells, basketball, bed, biceps, clean, clothes, clothing, coerce, feel, grapes, here, hot, hurry, hurt, kneed, muscles, neatly, squeeze, weight lifting

S2: write
X : me
A : printer

PRIVATE

S1: act, affairs, bathroom, bedrooms, business, detective, enclosed, executive, girls, home, inside, matters, mine, noise, paper, parts, public, quiet, seclusion, secure, solitary, solitude, special, study, talk, toilet, women

S2: corporal, duty, marine, military, 1st class
X : grey

PUPIL

S1: cornea, iris, squint

S2: desk, fifth grade, number, teach
A : black, hard

RACKET

S1: badminton, game, hit, net, strings

S2: crook, dishonest, extortion, front, gambling, mob

S3: riot

RIGHT

S1: justifiable, might, sure

S2:
X : climb, experience, impossible
A : brother, Catholic, German

RING

S1: bath tub, bearer, circle, circus, class, college, dope, enclosed, engaged, girl friend, Linda, marry, metal, secret, shower, size, stone, symbol

S2: chime, phone, phonetics, resound, sound, twice
X : book
A : ears

ROCK

S1: crunch, feldspar, geology, Gibraltar, granite, large, paint, pebble, Peter, Plymouth, rolling, Slippery Rock, solid, splash, steam, volcanic

S2: dance, festival, loud

S3: baby, chair, horse, jostle, rocker, sway
X : cock, eighty, past, take

ROW

S1: launch, push

S2: column, first, grass, stitch, theater
X : beautiful, brillo, fall, job, purple
A : home

SCALE

S1: bathroom, chart, chords, degrees, Fahrenheit, fat, heavy, justice, liberty, libra, math, model, sing

S2: height

S3: skin

SEAL

S1: cap, coffin, enclose, hard wax, jar, kiss, open, shut, stickers, tight

S2: arf-arf, Arctic, Arctica, balance, bark, circus, fur, Oakland, perform, rocks, sea lion, swim, water, wet

S3: notary, Solomon's
A : (S1, S2): escape
(S1, S3): Christmas, fasten

SEASON

S1: baseball, beauty, change, changing, Christmas, jolly, July, merry, period, quarter, snow, theme, time, trees

S2: garlic, spice

SECOND

S1: Avis, choice, coming, degree, duel, next, number, sex

S2: clock, moment, tick
A : motion

SENTENCE

S1: complete, correct, diagram, paper, punctuate, punctuation, read, say, statement, talk, tell, theme, thought, write

S2: compassion, imprisonment, jail, serving, verdict

SHIFT

S1: boat, clutch, curve, draft, eat, emphasis, eyes, hike, jilt, lean, --less, mode, places, position, register, ship, slide, sneaky, speed, sports car, steady

S2: blouse, gown

S3: duty, hours, swing
X : bunch

SOUND

S1: auditory, barrier, Beatles, choir, effects, like, listen, musical, off, quiet, record, ring, sight, speaker, tape, telephone, volume, zing

S2:

S3:
A : (S1, S2): kiss, test
(S1, S3): deep

SPELL

S1: book, children, conjugate, correctly, error, lessons, listen, orthographics, school, win

S2: awe, bound, confining, convulsion, enchantment, hoax, mystery, mystical

S3: dry, duration, hot
A : (S1, S2): well
(S2, S3): illness, relieve
(S1, S2, S3): bad

SPRING

S1: beautiful, Easter, grass, green, here, joy, leaves, love, rain, session, sunshine, trees, warm, winter, women

S2: board, forth, up, rod, slinky, spiral, sprung, trap, twang, twist

S3: mountain, river
A : (S2, S3): give

STABLE

S1: cow, horse, stalls, horsey, Jesus, mate, smell, straw

S2: atom, calm, conservative, consistent, dynamic, emotional, family, fixed, happy, healthy, keep, mother, person, sane, solid, square, strong, tilt, together, unchanging, uncommon
X: ball, payment
A: crop

STALK

S1: deer, get, hunter, Indians, jump, lurk, moon, pace, plod, rampage, search, slow, stalking moon, step, war, watch

S2: flower, grass, growing, limb
X : Cooper, Falk, fill
A : woods

STATE

S1: authority, California, capitol, demagogue, dinner, ground, legislature, liquor, map, nation, national, New Jersey, Pittsburgh, republic, university

S2: announce, assert, facts, impress, name, nothing, relate, statement, tell

S3:
A : (S2, S3): untinted
(S1, S2, S3): state

SUIT

S1: armor, blue, Botany, boy, Brooks Bros., button, double breasted, dress up, Edwardian, engineer, fancy, father, grey, match, navy, sharp, tailored, taste, twill, vest, woolen, zoot

S2: attorney, civil, legal

SWALLOW

S1: accept, apple, bottle, choke, fear, gullible, hurt, lump, meat, mouth, poison, quickly, snake, test, thirst

S2: dive, flight, tail
X : balloon, women

TAP

S1: beat, cane, dog, easy, feet, floor, foot, head, heel, jam, ketchup, kitten, pat, pound, roll, rhythm, shoe, small, sound, window

S2: beer, intercourse, phone, root
X : bus, camping, candy, day, forest

TIP

S1: bellboy, busboy, cash, check, coin, courtesy, donate, garcon, gift, reward, service fee, $5

S2: apex, basketball, cigarette, eraser, fall, gravity, knife, off center, pin, rubber, see saw, tilt, toy

S3: help, hint, horses
X : fast, sleepy, slip

TIRE

S1: automobile, blow out, change, Dual 90, gear, iron, mile, ring

S2: bored, dead, endless, exhaust, fatigue, rest, study, uneasy
X : beer, point, screw, song, up
A : man

TRAIN

S1: accident, boat, bounce, bus, cars, catch, conductor, dirty, fast, leave, New York, noise, pull, robbery, rush, slow, smoke, smoking car, stop, thought, wreck

S2: athelete, fight, learn, school, show, women, work
X : kind, picture, puke

TREAT

S1: beer, cake, dessert, goodies, happiness, happy, kids, milkshake, money, party, popsicle, present, prize, real, reward, special, Twinkie, yummy

S2: doctor, injury, patient, wound

S3: correct, employ, force, handle, harm, kindness
X : army, furnish, me, soda
A : (S1, S2): nice
A : (S2, S3): treatment

TYPE

S1: essay, ink, instrument, machine, pica, printing, set, school, slowly, story, theme, ugh, writing, written

S2: blood, caste, color, image, nice, O-positive, one, pattern, species, stereo, string, tobacco
X : extra, no, open, receive, reward
A : girl, type

UNIFORM

S1: air force, attire, band, blue, braid, clothes, cop, doctor's, drab, jersey, marines, medals, officer, policeman, symbol, ware, work

S2: books, commercial code, consistency, constant, desultory, discord, discrete, distribution, draft board, exact, now, one, regular, regulation, sameness, set, similarity, society, straight manner
A : brother, conform, clean, neat, organization, size

VOLUME

S1: control, intensity, music, noise, phonograph, speaker

S2: digest, novels

S3: area, beaker, big, c.c., cone, container, deep, dense, flask, heavy, liter, pint, quantity, sales, specific gravity
X : me
A : full

WATCH

S1: chain, hand, noise, pocket, present

S2: aware, know, marvel, me, on the Rhine, regard, scrutinizing, wait

WELL

S1: divining rod, drill, spring, water hole

S2: being, enough, fine, hurt, ill
A : (S1, S2): grey
(S1, S2, S3): problem, well

YARD

S1: fence, ground, mower, school, small, space, swing

S2: ale, mile, wool
X : arm
A : football

YARN

S1: cloth, doll, dye, green, grey, needles, rug, scarf, sew, skein

S2: have girl, lie, sailor
X : shit, yawn